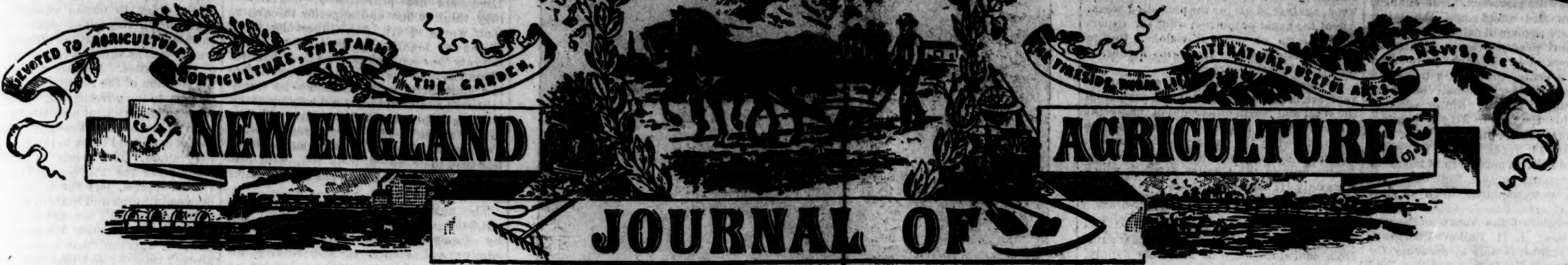


MASSACHUSETTS PLOUGHMAN



VOL. LXII. - NO. 22

BOSTON, MASS., SATURDAY, FEBRUARY 21 1903

WHOLE NO. 3187

MASSACHUSETTS PLOUGHMAN
NEW ENGLAND JOURNAL OF AGRICULTURE
Special Organ of the N. E. Agricultural Society.

MASSACHUSETTS PLOUGHMAN PUB. CO.,
Publishers and Proprietors.
ISSUED WEEKLY AT
NO. 2 STATE STREET,
Boston, Mass.

TERMS:
\$2.00 per annum, in advance. \$2.50 if not paid in advance. Postage free. Single copies 5 cents.
Advertisements: 10 lines for one week, 25 lines for two weeks, 40 lines for three weeks, 55 lines for four weeks, 70 lines for five weeks, 85 lines for six weeks, 100 lines for seven weeks, 115 lines for eight weeks, 130 lines for nine weeks, 145 lines for ten weeks, 160 lines for eleven weeks, 175 lines for twelve weeks, 190 lines for thirteen weeks, 205 lines for fourteen weeks, 220 lines for fifteen weeks, 235 lines for sixteen weeks, 250 lines for seventeen weeks, 265 lines for eighteen weeks, 280 lines for nineteen weeks, 295 lines for twenty weeks, 310 lines for twenty-one weeks, 325 lines for twenty-two weeks, 340 lines for twenty-three weeks, 355 lines for twenty-four weeks, 370 lines for twenty-five weeks, 385 lines for twenty-six weeks, 400 lines for twenty-seven weeks, 415 lines for twenty-eight weeks, 430 lines for twenty-nine weeks, 445 lines for thirty weeks, 460 lines for thirty-one weeks, 475 lines for thirty-two weeks, 490 lines for thirty-three weeks, 505 lines for thirty-four weeks, 520 lines for thirty-five weeks, 535 lines for thirty-six weeks, 550 lines for thirty-seven weeks, 565 lines for thirty-eight weeks, 580 lines for thirty-nine weeks, 595 lines for forty weeks, 610 lines for forty-one weeks, 625 lines for forty-two weeks, 640 lines for forty-three weeks, 655 lines for forty-four weeks, 670 lines for forty-five weeks, 685 lines for forty-six weeks, 700 lines for forty-seven weeks, 715 lines for forty-eight weeks, 730 lines for forty-nine weeks, 745 lines for fifty weeks, 760 lines for fifty-one weeks, 775 lines for fifty-two weeks, 790 lines for fifty-three weeks, 805 lines for fifty-four weeks, 820 lines for fifty-five weeks, 835 lines for fifty-six weeks, 850 lines for fifty-seven weeks, 865 lines for fifty-eight weeks, 880 lines for fifty-nine weeks, 895 lines for sixty weeks, 910 lines for sixty-one weeks, 925 lines for sixty-two weeks, 940 lines for sixty-three weeks, 955 lines for sixty-four weeks, 970 lines for sixty-five weeks, 985 lines for sixty-six weeks, 1000 lines for sixty-seven weeks, 1015 lines for sixty-eight weeks, 1030 lines for sixty-nine weeks, 1045 lines for seventy weeks, 1060 lines for seventy-one weeks, 1075 lines for seventy-two weeks, 1090 lines for seventy-three weeks, 1105 lines for seventy-four weeks, 1120 lines for seventy-five weeks, 1135 lines for seventy-six weeks, 1150 lines for seventy-seven weeks, 1165 lines for seventy-eight weeks, 1180 lines for seventy-nine weeks, 1195 lines for eighty weeks, 1210 lines for eighty-one weeks, 1225 lines for eighty-two weeks, 1240 lines for eighty-three weeks, 1255 lines for eighty-four weeks, 1270 lines for eighty-five weeks, 1285 lines for eighty-six weeks, 1300 lines for eighty-seven weeks, 1315 lines for eighty-eight weeks, 1330 lines for eighty-nine weeks, 1345 lines for ninety weeks, 1360 lines for ninety-one weeks, 1375 lines for ninety-two weeks, 1390 lines for ninety-three weeks, 1405 lines for ninety-four weeks, 1420 lines for ninety-five weeks, 1435 lines for ninety-six weeks, 1450 lines for ninety-seven weeks, 1465 lines for ninety-eight weeks, 1480 lines for ninety-nine weeks, 1495 lines for one hundred weeks.

Entered as second-class mail matter.

Consumption Scarcely Noted.

The present is a good time to go slow in spending State money for buying and killing cows according to the tuberculosis test. It is a period of new experiments and unsettled theory. It is not even certain that tuberculous milk and meat can give the disease to human beings. Speaking of the destruction of such milk and meat, Koch, the German authority says: "Such measures would be very costly, because of the compensation which would have to be paid for animals judicially seized, and on account of the immense quantity of milk which would have to be inspected. It is, however, decidedly more fitting not to lay out a sum of this kind for something which is far from being established, but to apply it rather to such measures as must with certainty lead to a decline of human tuberculosis."

That is to say, this great specialist believes more will be accomplished for the present by fighting the disease in human subjects than by trying to prevent it through destroying cattle and milk. It is, in fact, the belief of this great scientist that human consumption is not caught from cattle. But this point is far from being settled. Meanwhile, American scientists are having good success thus far in making cattle proof against tuberculosis by a kind of vaccination. If their plan can be made simple and practical, it will prove a great aid in driving out the dreaded disease from the animal world and also from among mankind. There is evidently much still to be learned about tuberculosis. Meanwhile, the only sensible policy is one of moderation on the part of officials and of education and watchfulness among the cattle owners. Of course the bad cases, such as are evident on examination, should be disposed of. But there is nothing in the present state of undisputed knowledge to warrant destruction of animals apparently sound. It is far from impossible that these may yet be successfully treated and cured with some modification of the vaccination method. Certainly there is no present basis for another tuberculosis scare. Rather, the conditions are hopeful, and point to a gradual improvement of the whole situation.

Talk with Professor Cooley.

The agricultural college at Amherst evidently is in a flourishing and expanding condition. From a few minutes conversation with Prof. F. E. Cooley, it was gathered that the shortage in dairying this winter is being taken by twenty-eight students. The course is under the direction of Professor Brooks, who instructs in all the details of dairy farming and the routine work of the dairy and creamery.

A popular new instructor is Mr. De La Sheldon, formerly of the Ames Agricultural College, Iowa. Another new instructor is F. R. Brown of Ashfield, who has charge of the Babcock Tester work. H. L. Knight of the agricultural college class of 1902 has charge of the chemical work in the dairy laboratory. Professor Cooley delivers four lectures a week on dairy farming. The new course in poultry farming, five weeks, bee culture, two weeks, and landscape gardening, promises to be both successful and popular.

Speaking of the recent developments in creamery management, Professor Cooley alluded to new apparatus for the ripening of cream, which consists of a metallic coil which is filled with steam and used as a stirrer in the vat of cream, thus securing a more uniform heating and mixture than by the old method of applying heat from below. He thought probably that a home-made device of this kind could be contrived, but would probably cost as much for single specimens as to buy one of the manufacturer.

A development of butter making, which he believed might be important, was the method of using freshly churned, sweet cream butter. This kind of butter was very delicious and was liked by an increasing number of tourists, who had become used to it while traveling in foreign countries, and there was already a large demand for it in large cities like New York and Boston. The factory would be able and willing to supply it as soon as the demand became large enough. It was a product that must be supplied fresh, and hence the local markets would be free from distant competition.

The best cream product of creameries was becoming of some importance. Creameries at Oxford and Winsted, Ct., were selling large proportions of their cream in frozen form. The students at Amherst were enjoying their new dining-hall, recently opened; a vast improvement over the unsuitable building formerly occupied for this purpose. The next requirement of the college in the way

of buildings, Professor Cooley thought, should be a combined horticultural-agricultural building. At present there are no sufficient facilities for the apparatus, specimens and recitation rooms required for these branches of instruction.

One reason for former low prices of butter, thought Professor Cooley, was the poor quality of the butter and cheese. The market had been spoiled by poor stuff, and the cheese market was still far below its natural extent for that reason.

The average cow in the United States yielded only 120 pounds of butter, worth \$26 per year, with perhaps \$4 worth of skim-milk, making a total of \$30. A cow should not be kept under that condition, and the owner would be far better off to sell a herd of ten such cows and buy five good ones. The difference in the profits between good cows and poor ones was far greater than most of the farmers realized. Professor Cooley had a herd of ten cows, which averaged 7197 5-10 pounds of milk in a year,

quality, 397 pounds of butter.

The ordinary way of reckoning the value of a cow would be to say, if an average cow yielded \$30 worth of butter, a cow yielding three times as much would be worth \$90, but in reality, the better cow is worth more than \$90. His own cows yield a net profit of \$40 per year. He reckoned that a cow was worth three times her net profit plus \$25 for her beef value when through milking; thus his cows would be worth three times \$40, with \$25 added, or \$145. He thought them fully worth that, as compared to the average cows, although cows of the best grade could, of course, be bought for less money. As a rule, the better the cow, the greater the profit in proportion. The difference in the cost of keeping them was not great; some poor ones ate more than some good ones, but usually a very good cow would eat somewhat more, but not nearly enough more to make up for the difference in profit.

A System of Successful Farming.

Farmers in this section were considerably interested in the address by Prof. J. W. Sanborn of New Hampshire, at Dracut, last week, before the members of the Middlesex North Agricultural Society. Professor Sanborn is now an extensive and successful farmer at Gilmanton, N. H.

"The agriculture of New England," said he, "is now in a most hopeful condition; the prospect is brighter than ever before." Since he was last in this vicinity the price has materially advanced.

Land at \$100 an acre is not the land on which to raise corn at fifteen cents a bushel. "Now is the time," said the speaker, "when I can discuss advanced methods of farming better than I could four years ago, as conditions here have so greatly improved. We agriculturists of New England in the past have suffered from the hardness of the soil with imperfect appliances for its cultivation. Today New England produces larger crops per acre than any other section of the Union, because the people do more thinking; they use their brains as well as their muscles."

"The intelligence of the people rather than the character of the soil is the measure of success. Our chief weakness today in rural New England is in a defect in the school system, which is inferior to that of the West, which is in charge of the State." Speaking of the relative cost of production in the East and the West, Professor Sanborn said that the profit per acre here is much larger than in the West. We farmers must study the methods of large manufacturers and get their secret of minimizing the cost of production. We are growing crops on too small a scale. About ninety-five per cent. of the land in New England is in grass. This is the smallest kind of farming. "Small areas well tilled" has too long been the slogan, and this has been our practice for half a century. In the West they do differently. Here the butter product in value per acre has been only about \$25.

This narrow system is responsible for the decline in interest in New England agriculture. We should through a system of rotation cultivate every acre we possess.

Very few acres in New England have evolved their possibilities. The speaker said that every year every acre of his arable land, four hundred acres, is fertilized.

The man who thoroughly cultivates his one hundred or 150 acres will have all the wealth he ought to possess. Every acre ought to be worth a hundred dollar bill in value of its products. In an eight years rotation the speaker told what should be the result, viz.: About \$80 per acre gross, where now it is about \$3.75. "After long experience," said Professor Sanborn, "I can confidently say that intensive farming pays." Machinery must take the place of muscular activity. "Without it," said the speaker, "I should abandon agriculture forever."

Professor Sanborn said he had solved the problem of plant food. Tillage is fertilization; tillage is manuring. He gave a number of instances in support of this statement. Four years out of eight he tills his land. He next gave illustration of the importance of rotation; it has always shown a much

greater yield where rotation has been followed. It helps by the distribution of labor, enabling the employer to keep his help through the year, and so helps settle the vexed question of the employment of labor, and in a social way by enabling the hired man to support a family.

Muck should be utilized, as it contains considerable nitrogen, and in combination with other materials makes a valuable fertilizer, especially where humus is lacking. Feeding was next taken up. The use of cottonseed meal was advocated, as it contains much nitrogen and is the cheapest source for the farm. The speaker said that he feeds from 150 to two hundred tons of concentrated foods. Buy cottonseed meal rather than corn meal.

"I use largely commercial manures," said the speaker. Chemical manures are plant food. This has been demonstrated. The only question is, are they profitable. Professor Sanborn buys the raw material and obtains results much cheaper than if the ingredients were bought from the manufacturer. He gave his rotation method with crops where chemicals are used: Corn, oats, peas, clover, potatoes, Hungarian grass, timothy and pasture the last of the eight years test. Contrary to the dominant views of most farmers, he applied more phosphoric acid than potash for potatoes. Analyze the soil, then the farmer will know what plant food is required.

Lowell, Mass. C. G. G.

Orchard and Garden.

Some of the finest and most productive native grapevines we ever saw grew wild where their roots were almost run over by the running brook, or on the shores of a gravelly bottomed pond. Yet the place for most of our cultivated grapes should be on high, dry ground, a side hill where the water can run off being preferred, though it may be terraced, so that it will not run off too rapidly. While a rocky, gravelly or sandy soil is preferable in the order named, they will grow well on a clay soil if it is properly underdrained. A southern or a southeastern exposure is desirable for most varieties, as it gives opportunity for the grapes to ripen more fully and earlier than a northern or western exposure. In setting the young vines it is well to keep the roots in a pall of water and take them out as wanted. The holes should be about ten to twelve feet apart in the row, and about one foot deep. If more than one row is wanted they may be from four to six feet apart, though we prefer the greater distance, giving better opportunity to cultivate between them. Opposite each vine and near it should be a post. These are usually about six feet high in commercial vineyards, and wires are strung along them, the first one foot from the ground, the next two feet above that and the third near the top. We have had good success with twelve-foot posts, requiring two more wires. While this makes it necessary to use a step ladder in gathering the fruit, the amount of fruit to a vine is largely increased if the ground is kept rich enough.

We have said the holes should be one foot

deep, and they should be large enough to allow the roots to spread naturally at full length. Do not put any manure or fertilizer in the holes. It will be time enough for that when the vines begin to bear. The main stalk should run up the post, but not wind around it, as it may be necessary to renew the posts after some years, and long before the vines do if they are kept healthy. The posts will endure much longer if they are charred or covered with coal tar where they are in the ground or a little above that point.

The side branches may be allowed to run along the wires, but only one to each, the others being broken or cut off as soon as noticed. Cut these back to two buds the first year, and the next year to about four or five. It is from these buds that will grow the canes that are to bear fruit. As the fruit is grown on two-year-old wood, a new cane must be grown each year, and the stem that has borne should be cut away, or cut back to one or two buds, one of them to

of trained men. Agent Harwood has already shown his zeal and efficiency during the few weeks he has been in office, having brought several oleo cases to court and losing none of them. Does any one believe that the board of health would be equally active in such directions?

More likely the emphasis of its work would be along other lines of no special interest to farmers. The present is a critical period in the dairy industry. The butter frauds of various kinds have been hit hard by the national law, but they are trying every sort of scheme and device which may help them to sell their product and to dodge the penalty and tax. They are ingenious, alert, untiring, and must be met in a manner equally determined and persistent. It is probably true, as the board of health people claim, that the State funds to suppress dairy frauds should not be divided between two separate organizations. But instead of taking away the dairy bureau's modest \$6000,

except as to weight, and the only trouble in that regard was that they were too heavy for the very best market, showing that in less time the best weight may be produced. We must eliminate and can eliminate a year or more of time from the process of making a prime beef. The whole mission of a steer is to convert our feed into beef. Keep him busy every day at his proper work. The greatest weight of beef can be made with a given amount of feed during the first twenty or twenty-four months of a steer's life.

ILLINOIS. HON. L. H. KERNICK.

From a Shepherd's Note Book.

Sheep naturally drink more often than cattle and should have water convenient.

On most farms, material goes to waste that would keep a small flock of sheep a part of the time.

The Missouri Experiment Station found by weighing tests that the average birth weight of a lamb is eleven pounds.

At four months of age the young lamb should be a good market animal, if properly fed.

Sheep are good 'stock for the orchard, and too many are not usually kept.

Fatten aged ewes and sell to the butcher. Some breeders add a little copperas to the salt for the breeding ewes.

Linseed meal is an excellent tonic, if a little is added to the other grain.

For the good of the sheep, and for the good of ourselves, we should not shear for the shows before April 1, and that is a good time to shear show sheep. We gain nothing by shearing earlier where we have good judges, and we are getting better judges every year.

Experience with Polish Help.

In the manufacturing cities of the Connecticut valley is a numerous population of Poles, some of whom will accept farm work. Farmers in the neighborhood have been experimenting in this line with varied results.

At the recent farmers' Grange meeting in East Hampton, L. W. West of Hadley was enthusiastic in his approval of Polish help, both men and women. He thought it a good plan for the young farmers to learn something of the Polish language. He said six hundred words would make a fair equipment for directing work, and a young man ought to be able to learn two words a day.

Mr. West considered it does not only the most available help, but the best help, even if others were available. He said a Polish man would save \$120 a year and a Polish girl \$125, and be ready in three or four years to buy a farm. And that, said Mr. West, is just what they are doing. They are buying farms and making them pay, because night sets the only limit to the length of their working day, and both men and women work in the fields. They are especially successful in raising onions.

The testimony of selectman J. P. But was not favorable to Polish help. Mr. Robinson of Sunderland said the Poles were doing so well in raising onions on land which they hired at \$40 an acre for a year, that it was necessary to pay \$18 to \$20 for Polish help not worth more than \$14 or \$15. He was rather disinclined to praise Polish help, and thought they had a dubious language. A man might do what he could with it, and then if he sent a Pole after a pitchfork the man would be as likely as not to bring a wrench. Mr. Frost of the East-hampton town farm said he had a Polish man one season, and it took three months to build him up. He thought the Pole's feeding capacity was against him, if one might judge from this man's eating eight potatoes at one meal.

Mrs. C. A. Judd of South Hadley announced that she had a jewel of a girl, who had been in the family three years. This girl was a Pole, and she agreed with Mrs. Barstow that Poles were the most desirable of the girls still available. In fact, it was useless to think of hiring Irish, French or American girls, because of the proximity of Holyoke. Mrs. Judd replied to a question that she paid \$3.50 a week. She thought that paying good wages had much to do with securing and keeping good help.

Tobacco or Onions.

Three hundred acres of onions are grown annually in Sunderland, Mass., and they are marketed from August to April, being kept through the winter in storage buildings when a rising market is anticipated. According to the statements of H. C. Sanderson, a prominent grower of Sunderland, the outlay for a crop of onions is not so great as that required for a crop of tobacco. The raising of tobacco requires glass for starting the young plants, machine-setters, special wagons and expensive barns. The days when Connecticut seed leaf was considered all that tobacco need to be are passed. Now particular shades and delicate quality are demanded, and the improved tobacco is susceptible to many varieties of injury from the time it is set out to the time it is finally marketed. Thirty to \$40 will buy the tools required for onion raising, and \$5 to \$6 an acre buy the seed. No expensive processes for curing are required. The crop may be sold from the field if prices are right, or may be stored at small expense. Mr. Sanderson declares that when he started farming he paid for his farm mostly by a mortgage. He tried tobacco raising for three or four years, but the mortgage did not grow any less. He turned to onion raising, and the mortgage melted away with gratifying celerity. He had been growing onions for thirty years, and seldom, if ever, without fairly satisfactory returns.

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Health in Dairy Barns.

At the meeting of Connecticut dairymen at Hartford, Jan. 21, H. E. Cook of Denmark, N. Y., gave an interesting talk on "Sanitation of Cow Stables." He thought that five hundred cubic feet of air per cow was ample. He advocated plenty of sunlight to destroy disease germs, and gave illustrations of the deadly effect of the sun's rays on bacilli. For lighting tables there should be thirty-six square feet of window to each five thousand cubic feet of air.

As to temperature, a cow barn should be from 54° to 60° in winter. A stable nine feet high, with the cows standing with their heads to the wall, and thirty-two feet wide, with one single driveway wide enough to drive in a wagon to gather the manure, is the ideal cow barn. There should be box stalls for parturition periods and milking cows. Horses can be kept in cow barns. The speaker advocated concrete floors with straw for the animals to lie upon.

Feed Young Bees Only.

As farming will have to be intensified as land advances in price, so with feeding meat-producing animals. We have to intensify the process. Therein is the key to the business. In beef production, with the passing of cheap lands, the three-year-old steer must go. It is entirely practicable by simple, natural, economical methods to produce prime beefs 1400 to 1600 pounds weight at twenty to thirty months old. We have produced a carload of steers weighing over 1700 pounds at thirty-one months old; ripe, prime, finished, ready for the very highest market demand,



THE NEW LIBRARY OF THE MASSACHUSETTS HORTICULTURAL SOCIETY, BOSTON.

Dairy Market Well Supplied.

No marked change can be recorded in the butter market. Receipts are moderate and demand light, with quotations tending lower as compared with last week. But changes are very few and affect only the lower grades. There is some demand for storage goods. Export grades are not wanted at present prices. Few dealers quote anything above 26 cents, that figure being for strictly fancy creamery. Small lots have brought a fraction higher. Butter receipts at Boston for the week 565,080 pounds, against 422,014 pounds in same week last year. Cheese 1481 boxes, against 871 boxes same week of 1902. There were 24 boxes of cheese for export, against 3229 boxes for export the corresponding week of last year.

Below are quoted the views of several Boston dealers: I. H. Ballou Company: The butter market is dull at 26 1/2 cents for fancy creamery. Trade is rather slow, and we see no prospect of a change for the present. It has remained dull for the past month, with a large stock on hand and no export movement. Byer Brothers: The market is healthy, but plenty of stock on hand of all kinds; no change anticipated. Hinckley & Co.: Fresh cream at 26 cents. Trade very dull, no prospect of improvement except possibly for the best grades. Cheese firm at 14 cents; demand moderate, small stock on hand. M. A. Parker & Co.: Best grades 27 cents and jobbing lots 28 cents; situation practically the same as last week, and likely to continue so far as present indications go. Continued mild weather would be likely to increase shipments of butter, especially the fresh made, and raise the market. Eggs have become plenty unusually early on account of the mild weather. There is a large stock of cold-storage eggs on the market, and these are bringing much higher prices than prevailed at this time last year, but severe weather caused prices to remain high well into February. It looks now as if prices had gone down to stay.

Recent summaries made from various dealers, experts and creamery associations place the total amount of butter produced in the United States annually at 1,500,000,000 pounds, or about four million pounds per day. This refers to the commercial output, and does not include small quantities made by individuals for private use.

During the recent year of prosperity the consumption of butter has increased greatly, the gain in Boston, Philadelphia and New York being responsible for twenty per cent. during the first six months of 1902, and the West the gain in estimate is still greater. The consumption would be still further increased if all butter reached the consumer in the best condition. Wholesale dealers say that much of the butter is spoiled or injured while in the hands of the small dealer or grocer, who neglects to keep the temperature of the refrigerator constant and low, and the ice is allowed to become low and the butter becomes warm and soft. Fermentation is liable to start; even if the ice is added and it hardens again, it looks salty and dull of color, injuring its salable qualities.

Receipts of butter at New York, Wednesday, 6619 packages, also 2371 boxes cheese. The butter trade is most active in the line of fancy fresh creamery at 26 to 26 1/2 cents, the higher figure being an extreme quotation. Some storage butter of remarkably fine grade has been selling for 25 cents, but most lots go at lower figures. State dairy butter is selling with some difficulty, at part skim use canned butter, most of the stock on hand and to make way for arrivals. Shippers have been buying up small lots of cheap packing stock to send abroad, paying 14 cents or a fraction above. Cheese at New York is still firm at a high range of prices. Receipts are light and stock on hand is being reduced as fast as could be expected, so that the outlook is considered favorable to sellers. Exporters are picking up a good many lots of cheap cream and part skim cheese, with the result that such grades have advanced a fraction in recent sales. Receipts of butter for the week 32,400 packages, or about five thousand packages more than for same week in 1902. Cheese 8950, against 5135 same week last year. Eggs 28,500 cases, against 32,690 cases same week of last year.

A new and increasing outlet for Western butter is found in markets across the Pacific. Honolulu, Manila, Japan and China and all the steamer plying upon the Pacific ocean use canned butter, most of it coming from Europe," writes commissioner H. B. Miller, now in Shanghai. "Swedish butter in one-pound cans retails at 45 cents. The Pacific slope can control all this vast trade, and it is simply immense. Butter in one and two-pound cans is preferred."

Secrets of Fancy Cheese.

The discoverer of the germ which is responsible for the fine flavor of June butter has been looking for the bacteria which conveys the flavor of the famous cheese of Europe since 1890. Prof. H. W. Conn of the Connecticut Experiment Station has tested samples of the Brie, Neufchatel, Camembert and Roquefort cheeses with other brands not so well known, securing specimens of the different stages of ripeness to study the changes in germ life. A few of these cheeses are successfully imitated in this country, but the process is kept secret. It is hoped by means of these experiments to find out the principle of the process and make it public, so that they may be expensive and produce the same can be made in larger quantities. It is hoped also that new varieties may be added to the present list of soft cheeses. In speaking of the work, Professor Conn's associate, Professor Esten, said: "Experiments at Wesleyan with the European and American varieties of Brie cheese show conclusively that they are ripened by the same organism. We also found that the blue mould which is present in Roquefort cheese is penicillium. There are moulds of different colors and different cheeses, some having a greenish cast and some showing a cream color under the microscope."

The Provision Trade.

Pork has been relatively higher than beef, and therefore in less demand. Arrivals of hogs vary greatly from week to week at the leading markets, but the stock is evidently limited. The high prices of corn in Iowa and other hog-raising districts have caused farmers to sell themselves short of hogs in order to avoid using so much valuable grain. The offerings of hogs have been moderate in numbers the past week, and short of the recent movement, says the Cincinnati Price Current. Total Western packing 435,000, compared with 495,000 the preceding week, and 545,000 two weeks ago. For corresponding time last year the number was 455,000, and two years ago 490,000. For the remaining portion of February last year the marketings were enlarged. From Nov. 1 the total is 6,830,000, against 6,385,000 a year ago—a decrease of 1,555,000. The quality is generally good. Prices have been advanced, and at the close prominent markets

average about \$6.75 per 100 pounds, compared with \$6.55 a week ago, \$6.35 two weeks ago, \$6.10 a year ago, and \$5.25 two years ago. Arrivals at Boston have increased a little, being 27,500 hogs for the week, against 26,000 for the preceding week. About the usual proportion went for export in the form of pork provisions. Boston dealers quote ham and fresh ribs higher, in line with Western markets.

The beef trade has suffered some inconvenience in getting shipments through from the West and North on account of the freight blockade, which in Boston is added to the delay caused by the quarantine restrictions. The market, however, holds rather low at Boston despite the smaller arrivals, which were only 177 cars, against 218 cars for the same week last year. Best cattle bring 8 cents.

Mutton, lamb and veal are steady at last week's quotation. Venison and other game from cold storage are in moderate supply, whole deer being quoted at 15 to 20 cents with saddles at 25 to 30 cents, skins on and legs at 30 to 35 cents. Bear meat is in moderate supply at 15 to 20 cents. There is a little smaller supply of game, prices being steady and unchanged. Black ducks sell at \$1.75 to \$2 per pair, redhead ducks \$2.50, wildgeese \$1, teal \$1.10. Philadelphia squab are firm at \$4 to \$4.50 per dozen, with natives at right time. For green pickles they must be picked very soon after they obtain full size, but before they have begun to color or to soften. For ripe pickles they are gathered at the same stage of ripeness as for oil making; that is, when they obtain the maximum amount of oil, which is soon after they are well colored, but before they have attained the deep black signifying overripeness. If the olives are gathered when too green the oil will be bitter, and if gathered when too ripe it will be rapid. On account of the different degrees of color in different varieties of olives, it is often difficult to tell from their appearance just when they should be gathered. When they can be easily shaken from the tree they are ripe enough. If they commence to fall without vigorous shaking they are too ripe. The careful olive ranchman that knows his business will always gather the fruit by hand for what \$3.50 to \$3.75, quail \$4.25 to \$4.50 per dozen, plover \$5 to \$6 per dozen.

The colder weather has given a favorable turn to the poultry markets, and prices for some grades are a shade higher.

It appears that New York dealers have a very large stock of turkeys and other poultry in storage. Nearly all of the storehouses have refused to accept any more poultry stock. It is difficult to see how all this stock can be unloaded at a price which will return a profit to the holders who paid 10 to 20 cents a pound.

Dealers hope to work off the poultry as soon as the season begins at the seashore and mountain hotels, but their success in this direction will depend on the season. A cold and wet season like that of last year greatly reduces the demand at summer hotels. Hence, the outlook is considered rather uncertain, and some of the storage men are working off their stock at prices which hardly return cost and storage charges.

Since the first of the year the receipts of turkeys have been nearly enough to supply the demand, and very little stock has come from the freezers, unless offered at a low price, or when some very fancy grades were wanted by a high class of trade.

So far as can be learned the stock of cold-storage eggs in New York is large for the season and includes 35,000 to 40,000 cases. Holders of this stock are doing their best to reduce it, but prices are ranging at or below 18 cents and are not very favorable. Receipts of fresh eggs are growing larger on a steadily on account of the approach of spring in the Southern producing districts, but thus far receipts have hardly been up to the demand. In Boston the stock of storage is excessive for the season, being, according to official statements, over 30,000 cases, compared with a little over 4000 cases at this time last year. This stock must be worked off some, or it will tend to depress the prices in that city; there are also many eggs in storage in Buffalo, Rochester and Syracuse and other points, and these are trying to unload in New York markets before the approach of spring and low prices.

Notes from Washington, D. C.

Farmers and gardeners are beginning to think of ordering seeds for the coming year. Nothing is of greater importance, where seeds are purchased, than to secure a good sample time to allow for making a thorough test of their germinative qualities. The buyer must depend upon the honesty of the seed dealer for the purity of his seed—whether the seed is to come true to name—but in this the dealer is not likely to go wrong, since the imposition would soon become apparent and result in the loss of future orders. However, in the matter of germination, the investigations of the seed division of the Department of Agriculture show that tremendous frauds are practiced upon the farmers. Unless the farmer actually tests the seeds he buys, before planting, he will never know whether a failure of crop is chargeable to the seeds or not. There are too many conditions to which the blame may attach. The appearance of seeds go for little. Some of the best looking clover seed may germinate not over sixty per cent. Choice early radish seed may be adulterated with common seed, which will be killed to purpose to prevent germination. The only way is for the grower to test samples of every kind and lot of seed he intends planting. The trouble involved is too slight and the appliances too simple—a plate, water, cotton and a warm room—not to try seeds in plenty of time to be sure they are good ones.

Although the Statehood bill still holds the right of way in the Senate, Senator McCumber of North Dakota was allowed on Thursday, the 5th inst., to call up the Pure Food bill, which has passed the House. The consideration of the bill has not been concluded; it is believed by the friends of the measure that it stands a fairly good chance of passage.

The farmers and sugar planters of Hawaii have become very much excited over the proposed congressional interference with their territorial affairs. The Senate subcommittee, composed of Senators Mitchell, Burton and Foster, which visited the islands last summer, has recommended that our land laws be extended to the territory. This would work irreparable injury to the sugar plantations and farm lands and would deprive the territory of a large income from leases. The committee also recommends the passage by Congress of a private irrigation bill, a \$2,000,000 project, under which the Government would receive practically no benefit. A petition was received from all the planters along the proposed ditch, protesting against the passage of this private bill, and urging that the matter be left subject to departmental approval, but this petition at the instance of Senator Burton was stricken from the record. There is probably little



PEN OF THREE HAMPSHIRE DOWN EWE LAMBS. Winners of champion prize in England.

chance that these recommendations will be enacted, as they are too flagrant. Senatorial junkies are not, as a rule, productive of very beneficial results.

It has always been one of Secretary Wilson's hobbies that the Department of Agriculture should constitute a sort of practical college so that young men could come from college and technical schools into the Government laboratories where they could be trained in practical scientific agricultural work and investigations. This sort of a college the department now is in a great measure; in fact, such is the case to an extent which really works to the detriment of some of the most important of the Government investigations. Much of the scientific work of the department is of very great importance and attracts to it the services of some of the most noted specialists in the country, and under them men starting on scientific work are glad to engage. The pay for this scientific work, however, as appropriated by Congress, is inadequate. The result is that many of the men after a brief schooling in the department receive advantageous outside offers and resign their positions, necessitating the training of new and inexperienced men, and while this is being done the investigations and experiments cannot be fully carried on. It would seem to be economy on the part of Congress to provide appropriations large enough to induce efficient men to remain permanently in the Government service.

The newspapers of the country are no longer filled with the press dispatches and articles regarding the imported theory that the milk from the cows affected with tuberculosis is injurious for human consumption. While the matter has thus disappeared to an extent from public view, Dr. Salmon, chief of the Bureau of Animal Industry, has made a recommendation in which he says that the question is one which demands immediate and thorough investigation. The disease is increasing among our cattle and hogs, and he thinks probably among our sheep, it is said that the value of the meat which must be destroyed each year by reason of this disease is becoming very considerable. The disease is one which not only menaces the stock owners, but, according to the weight of medical opinion, it threatens the consumers of milk. Dr. Salmon says further that the time for presentation of the work is now. The cattle of the United States are affected in less proportion than are those of any other large cattle-producing country, and he claims that it is only the course of common sense to arrest the plague now, rather than allow it to develop during a season of inactivity.

GUY E. MITCHELL.

Literature.

The above-named novel is a tale of the Revolution. It opens in 1778 in New Haven, while the hero, a Long Islander, is a student at Yale, but before this he had marched to Cambridge under Benedict Arnold, and had marched back again to renew his studies at college. He also answered the call to repel Tryon's expedition to Danbury, but arrived on the scene only in time to see the enemy retreat. Still, though he never saw regular service, he but little of actual warfare, he passed through many exciting adventures in the aid of the American cause. The perils he encounters are heightened by his remarkable resemblance to his cousin, a pronounced Royalist and something of a villain besides. The heroine is a beautiful and spirited girl, who, under an assumed name, contributes money to assist the rebellious colonists, even while she is apparently on friendly terms with the English. Many historical personages appear in the narrative, including Sir Henry Clinton, Admiral Digby and George, the Prince of Wales. A ball in New York while it was occupied by the British is described with a great deal of relevant detail concerning the manners of high society at a time when it was customary for men to get drunk and to make coarse remarks in public about women. Fashionable life in New York and London is sketched with a picture in these pages, no better than it is today in the same place, moralists to the contrary notwithstanding. There is plenty of action in this novel, and one exciting incident follows another with a rapidity that is surprising. But in all this whirl of motion there is nothing that appears unnatural or melodramatic. The situations are never forced, and are always strikingly effective, though, of course, they deal with the exceptional rather than the commonplace aspects of existence. The characters are depicted and contrasted with a skill that makes a marked impression, and the principal ones have a dramatic vitality that would make them effective upon the stage. The author tells his story in a manly, straightforward way that gives the impression of reality, and he handles his various scenes in a masterly fashion that shows thorough absorption in his work. There have been many novels pertaining to the American Revolution since the days of "Lionel Lincoln," but none that surpasses this one in freshness and in freedom from musty historical platitudes. [New York: D. Appleton & Co. Price, \$1.50.]

In the Temple Classics we have in two small volumes "Westward, Ho!" by Charles Kingsley. This stirring novel was originally published nearly fifty years ago, and since that time it has never lost its hold on the admiration of intelligent lovers of fiction. Its reproduction of the times of exciting and romantic adventure and exploration in the days of Elizabeth and of the defeat of the Spanish Armada are full of strength and vitality. Kingsley had his prejudices, but he gives expression to them with such an air of intense conviction that the reader is perforce swept along in the rush of vigorously individualized opinions and conclusions and by the magic of his genius as a story-teller. In its present form the novel has characteristic illustrations by J. A. Symington that add to its interest as a work for the perusal of young people, and presents, likewise, an altogether attractive appearance in its typography, paper and press-work. [New York: The Macmillan Company. Price, 50 cents.]

S. G. Bayne relates his experiences of his trip through Donegal and Connemara on an Irish jaunting-car, which, balanced by the driver and two travelers, proves a most delightful mode of travel. Books descriptive of Ireland are not so numerous as those describing other portions of Great Britain, although there is some fine scenery and a few historic landmarks worthy of attention in the land of the Shamrock, to say nothing of the people. All books bearing on Ireland are of interest, and while this is being done the investigations and experiments cannot be fully carried on. It would seem to be economy on the part of Congress to provide appropriations large enough to induce efficient men to remain permanently in the Government service.

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In speaking of the scenery about Lough Veigh, east of the Derry Veigh mountains, the author, as a tribute to its beauty, refers to Sir Walter Scott's celebrated description in "The Lady of the Lake," which pictures the ebullient day with its glorious colors lighting up the gray mountain peaks and nature's shrub and flowers. The details of the journey are replete with interest. The natural attractions around Donegal are vividly set forth. The seven arches at Port Salom and Temple arch, two bits of superb scenery, are graphically described, while photographic illustrations add to the value of the text. The author takes us from Donegal to Ballyshannon, from Ballyshannon to Sligo, from Sligo to Ballinrobe, and from Ballinrobe to other picturesque spots, illuminating his descriptions of persons, places and scenery with bits of incident, which always attend the traveler on the road. Those who are natives of the Emerald Isle, or descendants of natives, will read with delight this book, which is so unqualifiedly true and so unprejudiced against Ireland will find enlightenment within the pages of Mr. Bayne's volume. A true presentation of the Irish people, as seen in their homes by observing eyes, gives the story an intrinsic value.

At one place the author came across a man who claimed to be a first cousin of the late Gen. Phil Sheridan. The Irishman said, "They try to make out that Phil wasn't an Irishman, but he was born half-way over, but I tell you the true facts are that he was born before he started."

At one hotel the author told the boy to "call it at six o'clock." The lad wrote something on a slate with a puzzled expression. Mr. Bayne inspected the slate, and found written thereon, "Call 46 at one." [New York: Harper & Bros. Price, \$1.25.]

A few great cities within themselves contain largely the history of the nation of which they are a part. All Roman history gathers about the Imperial City, while the story of France is the story of Paris, and London represents the pulse of the mighty English nation. From the time of the Crusades the city of London has passed through devastating fires and political wars, yet it remains virtually the London of generations ago. Mrs. A. E. Cook in "Highways and Byways in London" displays sympathy and knowledge. London has always been called ugly, but to the writer its very gloominess has a charm and some beauty. There is the Waterloo bridge crossing the Thames, Somerset House built by Rennie in 1817, and the Tower and London bridge which exhibits its beauty from afar. In continuing the explanation of London's attractions, the author mentions how a delightful excursion may be made to the ancient priory church of St. Bartholomew the Great, which is a Norman relic, "left curiously stranded amid the desolation and destruction of all its contemporaries." From the church, half hidden by the neighboring houses, the reader's attention is directed to the Charterhouse building and other points of interest, until we have virtually been on a personal conducted tour, having not only the objects of interest pointed out, but the historical records of the ancient places related. The author's style is extremely interesting, and she frequently quotes the opinions of famous men on the subject under discussion. When Russell square is reached attention is called to Thackeray. "None of its modern innovations can, altogether abolish or destroy the spirit and feeling of Thackeray that it breathes," says Mrs. Cook. "Here lived old Osborne, the purse-proud banker; there is going on old Sedley's sale; I can see the packing cases, the 'loafers' and the vans at this moment, and here, by these prosaic green square railings, is Amelia, sad and black-garbed, looking with tear-dimmed eyes for her boy George. Even the historic railings are just the same as Thackeray drew them, and Amelia beside them, in chapter 50 of 'Vanity Fair.'"

In speaking of the London citizen, Mrs. Cook remarks on his utter indifference to other people's affairs. "There is naturally very little of the proud, local personal feeling that the villager and the small townsman so often feels. The Londoner, on the contrary, is usually self-centred, unscrupulous, phlegmatic, narrow. This pleasing quality foreigners politely excuse in him, calling it 'the spleen' and account it,

indeed, a kind of result of the London fog on character." Londoners are all very quick to "catch on" with the latest craze; they tire of it, however, with proportionate rapidity. Londoners are proverbially ungrateful; they think it fine and superior to cavil at their works of art. Mr. Gilbert designs a Florentine fountain at Piccadilly Circus; the very bus conductors fling their handful of mud at it as they pass. The new Gothic law courts arise in the Strand to be freely criticized and vituperated not only by every budding architect, but also by every "man in the street." The city powers are a Temple-Bar Museum, Griffin, and nothing less than their heads, it is felt, with propriety go to adorn the monument of their orator Philistinism.

The author considers that justice has not been done London by Londoners, nor by foreigners, that there is much to admire and plenty of opportunity for English people to make London a far more imposing city. English people spend so much more money on their country houses than their town residences, while in Paris the French build elegant homes in the city and crudely fit up their country estates. On the whole, Mrs. Cook's book is enjoyable. At times it becomes rather monotonous, in the apparent effort to cover more space than has been allowed. The subject is so general that it admits of a wide treatment. In particularizing, there is an inclination to stray from the subject in hand. Much discretion has been exhibited in the amount of historical explanation, and the author has succeeded in weaving in with her descriptions a lot of important information. This is one of the popular "Highway and Byway Series," published by Macmillan & Co., New York.

The production of this book, "First-Hand Bits of Stable Lore," has been the result of Francis M. Ware's personal experience with all kinds of horses for a period of thirty years or more. The contents prove the value of intimate acquaintance with the horse, and the knowledge which Mr. Ware has obtained will be of great benefit to all who own a horse or who are ambitious to possess one. Mr. Ware believes in horse dealers. He advises you to go to them when you want to buy a horse and seek their aid. Yet some people think that all horse dealers are "sharpers."

In considering the subject of stable management, Mr. Ware says the amateur who invests in horseflesh is, as a rule, handicapped by the fact that he is ignorant of proper methods and of the point where wise liberality should cease and true economy begin. An unwillingness to secure proper stable help may prove a serious mistake. Cheap help endangers a horse's health. To quote, "So far as stable management goes, its departments of menu and massage are of the first importance. To gallop a race horse is by no means to train him. As one tactician yet wonderful trainer replied, when questioned as to where he worked his horses, 'In every stable.' And that is three-fourths of the matter. As to ventilation there cannot be too much, draughts being prevented as much as possible, nor should there ever be noticeable the slightest trace of ammonia."

Considering the training of the horse, Mr. Ware says that "patience and repetition constitute the principal virtues which must be exercised in the horse's intellect. Wisdom and caution. Obedience must be insisted upon from the start. As one may judge a man by his words, so may a horse be judged by the moisture which anoints his bars and mouth angles; for if one would keep the horse's mouth alive and sensitive, beware the period when moisture disappears and saliva ceases to be in evidence—a lubrication intended by nature to facilitate in just such ways the comfort of the animal."

Mr. Ware has written fluently on a subject with which he is thoroughly familiar. Whether it be treatment for the foot of the saddle equipment or four-in-hand driving or the management of a pack of hounds the writer displays his intimate knowledge. The book is interesting to all lovers of horses and indispensable to the novice who has a stable of his own or is about to start one. Mr. Ware writes in a pleasing manner, in simple, direct language, and his sound advice will not be lightly disregarded by his readers. [Boston: Little, Brown & Co. Price, \$2 net.]

The establishment of civil rule in the Philippines has been closely observed by foreign powers as well as by Americans. A most admirable survey of the situation written by William H. Taft, the first civil governor of the island, has been brought out in book form by the Outlook publishers, in which magazine it first appeared. President Roosevelt furnishes the pleasing introduction to the book. After commenting on the wisdom of President McKinley's choice in men for this responsible and weighty position of governor of our island wards in the far East, the President adds, "Every American worthy of the name, every American who is proud of his country and anxious of her honor, should uphold the hands of Governor Taft, and by the heartiness of his support should give earnest of his intention to insist that the high standard set by Governor Taft should be accepted for all time hereafter as the standard by which we intend to judge whoever under or after Governor Taft may carry forward the work he has so strikingly begun."

Governor Taft gives a readable and authoritative survey of what has so far been accomplished in the progress of civil rule. An article written by the most distinguished General Otis prepared the way for the transition from military to civil jurisdiction, by the establishment of courts and the opening of civil offices, choosing Filipinos as much as possible to assist him in the government of the islands. This introductory step cleared the way for the commission which

ascertained the needs of the islands. One of the great difficulties consists in the fact that the sources of revenue may not furnish sufficient funds for the expenses of the government. Salaries will have to be larger than they are in this country, in order to obtain competent American civil servants. Spain paid her civil servants low salaries that her officers were less as well as shiftless in the performance of their duties. Another difficulty lies in the solution of the relation of the Catholic Church to the government. In the past the Spanish government and the Church have been so confused that most of the churches do not even hold titles to the land on which they stand. The treaty of Paris, which transferred the Philippine Islands to the United States, left the intimate relation between Church and State to be settled.

Governor Taft's account of what civil forms have been made are clearly set forth, and it is apparent that much progress has already resulted, and that Governor Taft is the right man for the place. He effects himself completely, never once mentioning his own part in the work of establishing civil government on a stable and permanent footing. One feels when reading this book a comprehensive account that the bare facts are stated stripped of all sentimentality of the enthusiasm of the dreamer. The actual conditions are placed before the reader in such a light that grasp the situation as it is today, and the difficulties which beset the work of Governor Taft and his associates. [New York: The Outlook Company. Price \$1.00 net.]

"Weather-shooting" has assumed such importance in southern Europe that not less than three international congresses to consider it have been held. The latest report shows that experts are most convinced that gun firing is useless for influencing rain or hail, although experiments are urged until the possible effects are fully understood.

The electric-light bulb at the end of a long wire has been found by Dr. Forrest Willard to be better than the water bag for applying heat to head, chest or abdomen.

Gems of Thought.

How well we can afford to wait for some of our good things!—Frances R. Havergal.

All the troubles of this world are born with wings.—Mary E. Wilkins.

Let us be of good cheer, however, remembering that the misfortunes hardest to bear are those which never come.—Lowell.

Thou God of all, infuse light into the souls of men, whereby they may be enabled to know what is the root from whence all their evils spring, and by what means they may avoid them.—Euripides.

Of all depressing scepticism, of all painful solitude, not the agony of thought, but the alacrity of duty is its antagonist.

The Lord calls for our burdens, would not have us wrestle with ourselves, but roll them over on Him. Now, the desires that breathe forth in prayer are, as it were, the very unloading of the heart; each request that goes forth, carries out somewhat of the burden with it, and lays it on God. Tell Him what are your desires, and leave them there with Him, and you are sure to be rid of all further disquieting care of them.—Robert Leighton.

Be not afraid to act yourself.

But have your motive good.

He can afford whose heart is right.

To be misunderstood.

"Thy will be done." For instance, when you wish, and by every means endeavor, to be well, and yet remain ill—then say, "Thy will be done." When you undertake something, and your undertaking does not succeed, say, "Thy will be done." When you do good to others, and they repay you with evil, say, "Thy will be done." Or when you would like to sleep undisturbed by sleeplessness, say, "Thy will be done." In general, do not become irritated when anything is not done in accordance with your will, but learn to submit in everything to the will of the Heavenly Father.

It is in our low things, however good in themselves, stand in the way of high things.—Rufus Ellis.

"Fret not thyself," said an old Greek dramatist, "fret not thyself because of things; for they care naught about it!"

The Greeks saw something divine in Nature,—caught glimpses of naivete by the mountain streams and of dryads hiding in the summer woods. Their ignorance was wiser than our cold reason, which as we breakers of fact and of life. But wiser still the conception which finds God, the universal Father, above all things, and all in all.—James Freeman Clarke.

"Man is unjust; but God is just, and finally Justice triumphs over Unjustice."

Help us to reach out past the things we cannot understand to the God we trust. We thank Thee for the passing of what changes and the changelessness of that which passes not.—Matt. 16: Babbcock.

Thou givest within and without precisely what the soul needs for its advancement in a life of faith and self-renunciation. I have then only to receive this bread, and to accept, in the spirit of self-sacrifice, whatever Nature shall ordain of bitterness in my external circumstances, or within my heart. For whatever happens to me each day is my daily bread, provided I do not refuse to take it from Thy hand, and to feed upon it.—Fenelon.

Friend, go up higher. Patience and strength we need; an earnest use of what we have now; and all the time an earnest discontent until we come to be what we ought to be.—Phillips Brooks.

For myself I draw my strength from the trouble. If the mould in warm water when they are the animal heat.

The breeding bird should be kept in a pure breed. It is extra males, thus illness. Some breed each flock, changing security, the vigor. One famous

as many important birds, told the fourteen, even a sitting of fifteen by him quite often \$5 to \$6 per sitting, pleased with a large almost perfect firstling the birds in flock changing the male flocks were a few serious matter, good by breeding early hatched pullets or to yearly rather than extra. In reserving extra first of June, which prove less fertile than of the season.

Poultry and Eggs

The Boston poultry

By W. H. Ridd, So.

Feb. 12, remains

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MASSACHUSETTS PLOUGHMAN

TELEPHONE NO. 3767 MAIN.

Even the time ball is not always on time.

The port of Boston is not yet equipped to take care of thirty-seven stowaways at one stop.

We are pleased to note that there begins to be in evidence a certain tendency to be bored by success.

Evidently the campaign for the saving of Brimstone Corner is not to be spoiled by moving too quickly.

Congratulations to the white owl of Marshfield on so long evading the efforts of local marksmen. May it long hoot!

The turnstile has been hard pushed, but Justice Brown returns a verdict that it did no serious damage in the case when it hit back.

Now that Chelsea is likely to have a public forum, why wouldn't that city be an excellent proper place to revive the dead languages?

Whatever may be the effect of Mr. Kennan's investigations in southern Delaware, the Tsar of all the Russias will take little stock in 'em.

Winchester has a new "no-school" signal. By whatever mechanism it is operated, however, it will probably sound just as sweetly in the ears of youth.

Trouble is already preparing for the unborn mosquito. The suburban cities are beginning their plans to continue treating her to a petroleum bath.

One might have imagined that the town of Reading would be the last place in the world to hesitate over the acceptance of a free library—or even part of one.

We suspect that the author of the humorous section of the Middleboro town report has a concealed ambition towards the authorship of comic opera.

We notice in the want columns of a contemporary that a certain number of bright, energetic young men are wanted to sell "a dire necessity." But who wants to buy a dire necessity?

The death of the English novelist, Edna Lyall, marks the passing away of another writer who began her work before the making of popular literature had become quite so much the fashion.

Why a popular magazine should taunt the unfortunate with the fact that its latest edition is entirely sold out, still remains a puzzle to those who are not immediately moved to order a copy of the next edition.

The opinion of a local coal dealer that "ninety-nine out of a hundred people don't know there is such a thing as a legislative hearing" shows very little respect for the informative value of newspaper headlines.

Syracuse, N. Y., is having an opportunity to sample many varieties of religion. We advise the public library—and other libraries—to lay in an extra number of volumes of Matthew Arnold's "Literature and Dogma" to offset the result.

The Athenaeum still stands where it is, and a majority of the proprietors are evidently quite content with the present situation. After all, it is rather pleasant to see somebody stop and consider a moment before following the general up-town movement.

That was a quiet little bill that went modestly through the national House the other day and gave the individual State jurisdiction over imported liquors before as well as after delivery. But will it get through the Senate? Now that the opposition interests have woken up to the fact that there is such a bill its career will be stormy.

Being so far removed from the scene of trouble Boston can enjoy the picturesque aspect of the sympathetic strike now ordered by the Chicago Scrub Woman's Union as an assistance to the striking janitors. Moreover, with nice feminine intuition, the scrub women have chosen the exact psychological moment. "This is the muddy season," says the president.

And now comes the aftermath of a romance which must have thrilled all tender-hearted readers of newspapers some months ago. A young man married a soubrette, and two young men were taken out of college by a disturbed and surprised parent, lest one brother should follow the example of the other. The aftermath consists in the suit brought by a local ticket broker for \$98 worth of theatre tickets.

The Harvard athletic committee has nipped in the bud a tendency that has been growing of late to advertise intercollegiate sports outside the walls of the college. The temptation to advertise in this fashion was not altogether unattractive on the part of some of the smaller teams that thus hoped to swell their gate receipts; but it was a tendency working in the wrong direction and the athletic committee have very wisely put an end to it.

The tendency toward more full and reasonable payment for property destroyed for the public good is again illustrated in Vermont, where the new law pays eighty per cent. instead of the former fifty per cent. of the valuation of cattle killed for tuberculosis. The point will probably soon be further illustrated in Massachusetts by full payment for direct losses during the suppression of the foot and mouth epidemic. Public measures should be paid for out of the public purse.

"I am farming for what money there is in it," said a bustling farmer. That was years ago. He has made money enough, he admits, yet he still works as hard as his strength permits. "If you are farming for money, why don't you stop now and enjoy it?" "Well, I tried that awhile," he replied, "but farming is a pretty good thing, even for old fellows like me." Many a man who thinks he is working for money is really working for about all the pleasure he will ever get, and following the only occupation that would give him satisfaction for any length of time.

Prosperity in Iowa has enabled the railroads of the State to pursue a course which they doubtless consider very clever and amusing. In former years Iowa has been famous for the severity of its taxation and

traffic laws affecting railroads. Now the railroads, with a timeliness which looks very much like common agreement, have been investigating farm values, and seem to have found evidence that Iowa farms have increased greatly in market value the past two years, while taxes have remained stationary, until now the taxed value of the farms average only fifteen or sixteen per cent. of the market value. So in Iowa this year the agitation for tax reform takes the unusual guise of a movement of the railroads against the farm owners. Of course it is merely a game of bluff on the part of the railroads by which they hope to head off any threatened hostile legislation affecting their rates and privileges.

The Department of Commerce.
The majority of people have probably forgotten all about the Department of Commerce, the establishment of which was recommended by President Roosevelt in his first message to Congress. Now that the bill has been passed which carries out his ideas, he will, no doubt, cheerfully sign it, and express his satisfaction that the opposition to it has been overcome.

In commending a year ago the proposal for the creation of the new department, Mr. Roosevelt said: "It should be the province of the head of such a department to deal with commerce in its broadest sense, including, among many other things, whatever concerns labor and all matters affecting the great business corporations and our merchant marine. The course proposed is one phase of a far-reaching scheme of constructive statesmanship, for the purpose of broadening our markets, securing our business interests on a safe basis and making firm our new position in the international industrial world, while scrupulously safeguarding the rights of wage-workers and capitalists, of investor and private citizens, so as to secure equity as between man and man in this Republic." It will probably take this new department some time to get under way, but if it is really to live, it will have to settle quietly and effectively the disputes between labor and capital, we shall arrive at a happy state of affairs that will do away with the socialism that tends to anarchism, and with the moneyed oppression of grasping and unworthy trusts which arrays class against class and menaces the perpetuity of the Republic founded by the fathers of American liberty.

It is quite likely that there will be much fault found with the new department, but its creation is a step in the right direction of putting all citizens on an equality in the carrying out of measures for their protection from both tyranny and license.

Peace and the Navy.
A recent writer sneers at the idea of increasing the American navy for the purpose of preserving peace, and seems to think that a formidable naval display would invite war instead of preventing it. This is an erroneous opinion. It is the notion that is inadequately defended that it is always the mercy of some bullying power that wants to seize land in the poorly protected countries and add it to her own possessions. Colonies are gained by aggressive nations by scaring those that are weaker than themselves and by making pretenses that they have been wronged, like the wolf did in the fable, when he gobbled up the lamb that he accused of polluting his drink.

It will not do to let the United States go unguarded at home or in any of our recent possessions, and Assistant Secretary Darling of the Navy Department is right when he says that we ought to increase the number of battleships we are now building about threefold. It is no use to look back at the glories of the Yankee ship and the Yankee crew in the war of 1812, and imagine that with similar inadequate resources we can repeat the triumphs of those times. Our victories, too, on the water during the war were won against a foe that had few opportunities to turn out ships of war capable of contending with ours in a sea fight, so that we need not draw the hasty conclusion that we can stand against the world, or any considerable portion of it, in naval encounters. The days of comparatively small things were included in the periods just mentioned, and the advances and radical changes in naval construction of more recent years should make us anxious to safeguard ourselves at home as well as in our lately acquired possessions beyond our boundaries.

Not to prepare for war in times of peace is the height of folly. The way to invite attack is to sit down and remain unprepared to meet it. If our merchants should leave their stores unlocked and unwatched at night, how long would robbers refrain from entering them? Such a course as that indicated would make thieves, and an insufficiently guarded country invites conquest. The way to insure peace, therefore, is to show that you are thoroughly able to discourage by force of arms all attempts to break it. In a crowd where there are no efficient police there is usually mob-rule every man for himself and the diabolical rule of the strong. So in the elements of naval grabbers the country that least effectively defended is crushed beneath the efforts of the contending parties. The white-winged dove of peace at present perches upon the most powerful batteries. When the millennium arrives, she may find a more fitting resting-place.

Mr. Powers' Speech.
The trust debate in the national House of Representatives last week was in every way a notable one. Mr. Powers, the Massachusetts representative, was accorded the distinguished honor of opening the debate in an hour's speech, and he acquitted himself most creditably. His speech, which we have before us, shows that he made his argument along conservative lines, and fairly represented the sentiment of his constituency. He argued in favor of industrial liberty and such protection of the field of competition as would prevent the small competitor from being crushed by the large combination, obtaining the advantage of rebates and other discriminations from railroad companies. He showed the importance of holding the large combinations within the lines of fair competition, and preventing, if possible, the crushing out of the small operator by unlawful and practical means. He pointed out the tremendous industrial growth in this country during the past twenty years, and said that it was important that Congress should do nothing which would seriously interfere with the commercial progress of our people. He closed by saying: "The great majority of the representatives in this body believe in a fair protection of vested interests, and at the same time a fair protection of the consumer, and it is the great conservative element, recognizing the importance of labor upon one hand, and recognizing the importance of capital upon the other, that will work out this problem for the welfare of the Republic."

The members of the House followed his

speech carefully throughout and accorded him generous applause at the end. Mr. Powers has been most fortunate in the record he has made in his first term in Congress. He received excellent committee assignments, which gave him an opportunity to take part in important matters of legislation. In two of the most important debates that have taken place during this session of Congress in the House, he was selected to open one and close the other, the last being on the bill for the amendment of the Bankruptcy Law in which New England people were so much interested. This bill passed both the House and the Senate, and has just gone into force. There can be no question but that Mr. Powers has before him a most useful career in the public service. His great industry, good judgment and good nature are qualities which are most requisite for success in Congress.

Stock and Dairy Notes.
The recent prevalence of the foot and mouth disease in some of the New England States and the consequent closing of our export trade in cattle furnishes but another argument in favor of raising our cattle at home, and most of all, our dairy cattle. We do not know where or when the first case originated, but we do know that it has been very rapidly and widely spread by the sale and transportation of cattle, and their purchase by those who have thought it cheaper to buy developed cows than to raise the calves from their best cows, first taking care that they were free from the disease of approved blood. One man, who finds his whole herd doomed to destruction, declares that if he can start again with a herd of healthy cows, he will never buy another cow or any other animal to introduce to his herd unless he can be sure, by quarantining for a season, that it is free from this and all other diseases. We hope many more will be of like mind.

When the outbreak of pleuro-pneumonia began in May, 1896, among a herd of cattle owned by W. C. Clancy of Belmont, measures were taken to stamp it out and to prevent its spread, and the next spring for that purpose. This being found to be insufficient, an extra session of the Legislature was called that on June 12 appropriated a further sum. Nine hundred and thirty-two cattle were killed, and for more than a year the danger of thought to be over, but the following winter there was a new outbreak and 154 cattle were killed. Again they thought the danger over, but it appeared again in February, 1893, and as the appropriation was but small, the selection of the towns were called upon to do the killing. In 1894 several herds were found affected and seventy-four cattle were killed. In 1895 three herds were found affected and four cattle were killed. Thus we see that the spread of the disease, as we find no record of any in 1896 or later. 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Or fortune.

The Horse.

Benefits of Driving.

"No other exercise known combines the same degree of physical activity, of functional invigoration and of pleasure, with such slight tax upon the vital powers, as driving," says a London writer. "The physical activity is the result of two causes: First, the jolting, jarring and swaying of the vehicle; and secondly, the vital stimulation incident to the pleasure of the drive. It is difficult to say which of these influences is the more important as a vital stimulant, the mechanical agitation or the exhilaration. The movement of the vehicle necessitates a certain amount of muscular action, mainly in the muscles of the abdominal region and the waist. Every swaying of the trunk backward, forward or to the side calls for a gentle contraction of these important muscles, and every such contraction accelerates, by just so much, the action of the heart, lungs, stomach, liver and bowels. The mechanical agitation imparted to the body by the vehicle acts in quite a different way to emphasize the same effect—to encourage deeper respiration, heart action and peristalsis. Then the rapid movement through the air, bringing the skin constantly in contact with fresh supplies of air (thus creating a kind of artificial breeze) is of immense value in increasing the amount of oxygen absorbed by it."

Savable was the biggest money-winner among the two-year-olds on the running turf last year, with \$90,750 to his credit. Fifty-nine two-year-olds won \$5000 or over each.

Prince Alert (2:00) has started in eighty races, being out of the money but eight times. He has paced 276 heats, winning 141, and has the enviable record of pacing sixty-three winning heats below 2:10.

Promise (2:12), that is picked as one of the coming stars, was sold once for \$40, and his speed was discovered while he was hauling a market gardener's wagon. He is well bred, being by Silver Chimes, out of Boos, by Stranger; grandam, Maybug, by Aberdeen.

The best medicine for heaves is arsenic given in small quantities. Give a dose of five grains once in twenty-four hours in the mixed feed for two weeks, then, after a week's intermission, commence as before will cure in most cases. Give only five grains, no more. Give the horse mixed feed slightly moistened, just so that the feed will stick to the hay. The hay should be well shaken out and moistened just enough to make it slightly damp.

The State Fair Grounds at Syracuse, N. Y., are to be greatly improved during the coming year. The railroad tracks are to be removed from the back of the grand stand to the back of the State Fair buildings, and a platform nearly their entire length erected, so that instead of unloading five or six cars at a time they will be able to unload forty or fifty. A big main building will also be erected, which will be a grand structure and located in the centre of the grounds. It will contain an immense auditorium, capable of seating five thousand persons, with a stage for a band. Some of the other planned improvements of the grounds will be engaged for the fair next year.

Richard Croker's most prominent victory in the English races was for the Portland Plate, which he won with Gladwin. It netted him \$125,000, counting in his bets. He expects to have a big season in 1903, and has purchased through J. S. McDonald of New York a number of colts by Floridel and St. Simon, now being trained by Huggins.

Coal Investigations.

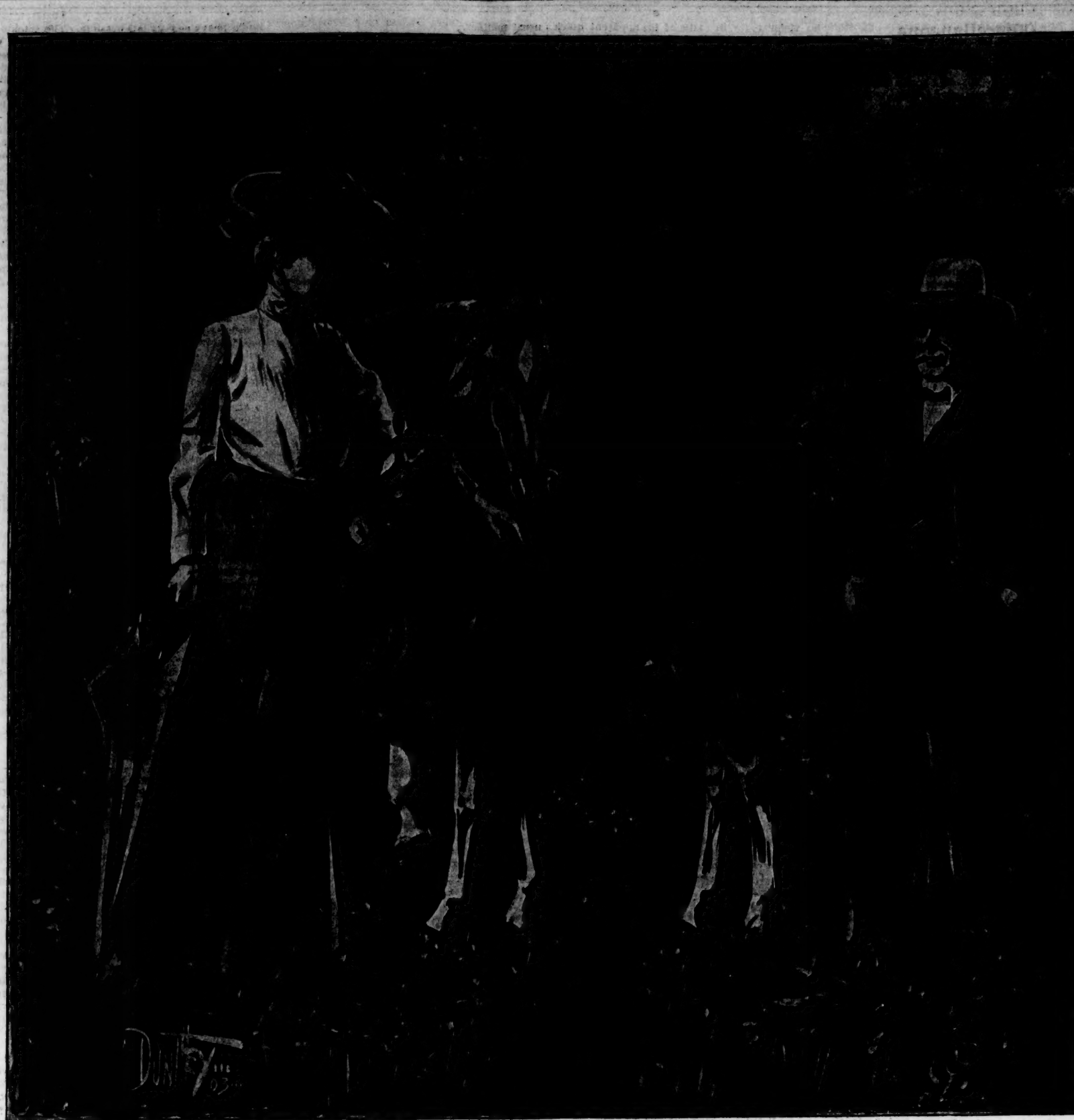
In the investigations at the Chamber of Commerce in this city recently, by the subcommittee from Washington, it was conclusively shown, we believe, that both the scarcity and high price of coal in Boston was due principally to the coal roads that conspired with the independent operators to bleed the consumers. This may be regarded, in some quarters, as an employment of shrewd and justifiable business tactics, but the generality of people look upon it as little better than the methods used by highway robbers to empty the pockets of those who happen to be placed at their mercy.

Many of the local dealers seem to have been the victims of this conspiracy as well as their customers, and they were obliged to charge advanced rates to get even small profits. There are, no doubt, some unprincipled dealers in Boston, who will take an unfair advantage of the consumer whenever they have the opportunity, but in all kinds of business men of a similar description are to be found. The investigation now going on at the State House has furnished evidence, we think, that all dealers were not acting squarely, but those who attempted to cheat in measure and price are marked, and when things return to their normal condition in the coal trade the traders will suffer from a lack of patronage, and may be fairly driven out of business, owing to their grasping propensities.

We see no great harm in an association making a market price for coal, but after it is established it should be adhered to completely. What would we say of a dry-goods house, for instance, which put up in its window that its price for one article was six cents a yard, and then charged the buyer nine cents. But this would not be any more inconsistent than to quote coal at \$12 a ton

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THEIR HOPE FOR THE FUTURE.

at retail and then demand \$18 a ton from the consumer, who was in a tight place. The price quoted should be the same for all, rich and poor, high and low, but if the dealer were philanthropically inclined, he might make a discount to his poorer customers, which need not appear on the face of the bill. In this way he would be favoring the small buyers, though probably the big ones would object if they thought there was any discrimination. Some people will, no doubt, say that this would not be according to usually accepted business methods. Granted, but it would be helping a poorer brother out of a coal hole.

Whether investigations ever do anything to relieve a distressing situation may well be doubted. They usually come when the conditions which they are expected to relieve are past. The logic of events is more potent than investigations, and with the back of the winter broken and a plentiful supply of coal at the wharves, we may reasonably look for further reductions in the prices of coal that will not make it much higher at this time of the year than it has been in corresponding seasons in the past.

A Grass Specialist and His Way.

(Continued from last week.)

The gist of it all is thorough and frequent working of the soil before seeding down. It is quite well known that more goodness can be washed loose by rain and sucked out by plant roots if the soil is made fine and kept so.

This is an admitted secret of specialist T. B. Terry's big wheat and potato crops and of J. H. Hale, the peach grower, and of others who have learned how to scratch and pound the fertility out of the soil. Analysis shows that common soils have plant food enough to grow hundreds of crops if the plants could only get at it. Mr. Clark has helped his grass roots to reach a little of this locked-up richness, and hence his success, allowing much also for his careful seeding, application of quick-acting soluble fertilizers and general attention to detail. Most farmers slight their mowing lots; Mr. Clark works and thinks over his famous sixteen-acre grass field from start to finish.

In the first place it cost him \$4000 to clear off and bury the rocks. Plenty of equally good land all cleared could be bought for very much less money, yet his hay has paid him back the cost with fair interest. FREQUENT THOROUGH WORKING THE SOIL is doubtless Mr. Clark's great lesson to farmers. It is, of course, not necessary to use the outway harrow and other excellent tools which he makes. Anything will do that will fine the soil to a fair depth. Note the way he works the soil. Before sowing, the land has been stirred forty-three times, thus: With outway harrow, thirty-two times; with smoothing harrow, four times; with torrent plow, two times; with grass hoe once. At thirty cents per hour, these stirrings, taking about thirty hours per acre in all, cost \$9 per acre.

Farmers who have other tools would use plows, disk harrows, spike or spring tooth harrow, smoothing harrows, horse weeder, etc. The cultivation is not to get rid of the sod that is supposed usually to have been worked down by a year of some other crop. The point is to keep working the lumps and particles finer and finer until they give out some of their richness, through action of air and light and rain. The working is all done in July and August.

Then he sows wheat or rye, adding two hundred pounds of fertilizer in the spring, and harvesting a heavy crop of grain and straw. Of course, there is no need to adopt

Mr. Clark's wheat crop. The principle is to work the soil two seasons, with what would seem to many extreme thoroughness, before sowing the grass. The wheat also protects the soil over winter.

After the grain crop he begins to work the soil again about the middle of July, and chops it up with harrows three or four times over each time, once a week, for a month or so, stirring the soil at least thirty times.

SOWING THE GRASS SEED.

On Sept. 1 he sows fourteen quarts timothy and fourteen quarts reed caned redtop, sowing between lines of feet apart, spaced every sixty-six feet. Each space (66x1 feet) is two square rods.

Only half of each kind of seed is to be sown in one direction, and that by itself, the other half being sown at right angles to the first in precisely the same way.

GO OVER THE FIELD FOUR TIMES.

Consequently, it is necessary to go over the field four times in this sowing by hand. As this part has sometimes occasioned difficulty, I will state, as exactly as I can, what is my own practice. I use two lines or cords about one-quarter of an inch in diameter and twenty rods (330) feet long; each of these lines is out and looped every four rods (sixty-six) feet. For fertilizer I lay the lines one rod (16½ feet) apart; for grass seed, because it is so much lighter, just half this distance. In the former case the oblong will contain four square rods; in the latter, two. If a cup could be made holding precisely the amount of grass seed necessary each way for one of these oblongs, it would be very serviceable; the amount is, of course, one-eighth of seven quarts, since one-half the seed is sown in each direction, or seven-tenths of a gill. The object of the extreme care is, of course, to get the seed in as evenly as possible. There are machines for sowing grass seed, but I have no experience with them.

THE NEXT STEP.

The next step before harrowing is to sow five hundred pounds—or more if the land is poorer—of fall dressing. Here again care is necessary that the sowing be done evenly; it is therefore better to sow half the quantity in one direction between lines, and the other half at right angles to the first in the same way. The quantity for each oblong of four square rods, if all is sown at once, would be one-fortieth of five hundred pounds or 12½ pounds; if one-half is sown each way of pounds. Ten days later one can tell by the color of the grass whether the fertilizer has been evenly sown or not; if not sown more, correction in detail brings large results; time, faithful work is needed to insure success, after all, work as careful as this requires but little time comparatively.

HARROW IN THE SEED.

Now harrow in the seed and fertilizer

together, with the smoothing harrow, the leveling board having first been removed. Harrow in four directions, each time in half lap. Roll the land smooth and keep everything off the field until April. When the grass has grown three or four inches, sow five hundred pounds of spring dressing, which contains a much higher percentage of all active chemicals, especially of nitrogen, than the fall dressing. By July 1, one ought surely to cut four tons of hay to the acre.

The results are based on a crop of four tons at \$16 per ton the first cutting and 14 tons second crop, worth \$88 in all.

COST AND PROFIT.

The cost for team labor at thirty cents an hour, hand labor, seed, fertilizer, getting the hay, etc., was \$48, leaving \$38 net for the first year. The second year the cost would be eight hundred pounds fertilizer \$23, sowing fertilizer \$1.50, getting hay \$9; cost in all, \$33.50; crop, 2½ tons, at \$16, or \$88; profit, \$54.50. The advice of Mr. Clark is to rework and reseed the land every five or six years.

Some soils are too wet to grow grain or other crops, and in such cases he advises working the soil the first season a few times extra, making say fifty-five times over and sowing grass seed in the fall. This would save a year, but some of the sod would be left and the soil not generally in such fine condition as if cropped and worked for a year preceding the grass.

SOME OF MR. CLARK'S POINTS.

No guesswork. Soil stirred seven times and seven times over. Careful seeding and reseeded bare spots. Plenty of topdressing and extra for the wet-germinating spots. Watching and studying to help the crop as it seems to need each season. Fighting drought with liberal fertilizing.

In curing hay, heap it at night and stir it often by day. Pack evenly in the barn to avoid hard spots and damaged hay.

The second crop should be cut just before freezing. Fields are never pastured or any animals allowed on them, except at haying time.

Middlesex County, Ct. G. B. FISKE.

Notes from Washington, D. C.

Bearing upon the recent discussion of Louisiana molasses as a stock food, Consul Covert at Lyons reports to the State Department a portion of the proceedings of the French National Congress lately held. He says: "Mr. Lambert of the Troy Sugar Mills headed in a large closed receptacle a mixture of molasses and chopped straw. By drying this mixture in a warm room, a product was obtained which he called palmet, and which can be readily packed and transported and

easily handled. This feed is composed of forty-five per cent. of straw and fifty-five per cent. of molasses. It contains at least twenty-five per cent. of sugar and fifty-five per cent. of digestible matter. Twelve horses employed in farm work were fed a ration composed of ten pounds of palmet, seven pounds of oats and seven pounds of hay during 120 days. They were weighed once a week. They increased in weight by doing hard work.

"A number of sheep were fed 2-3 pounds of palmet and 6 pounds of peat per day during forty-two days. The total increase in weight per animal was twenty-six pounds."

California irrigation covers the extremes of agriculture—that is from the small ten-acre fruit orchard to the immense stock

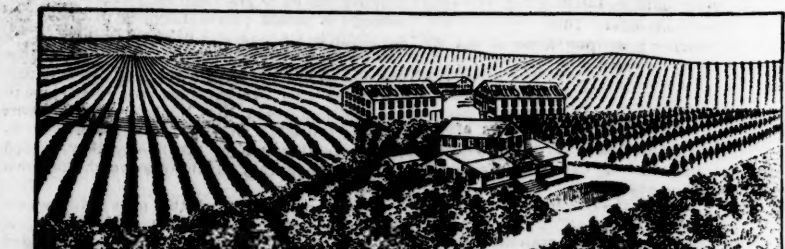
farm with its dozen big fields of rank-growing alfalfa. No forage crop produces the tonnage per acre that alfalfa does in the warm Southwest, where it can grow almost the year around; at the same time no crop takes such a supply of water. Given a loamy soil, plenty of water in it, and a hot sunbath, and alfalfa will do as effective pumping as the most improved centrifugal. When you see three or four great ricks of alfalfa hay, each almost as long as an ordinary city block, and as high as the peak of a two-story cottage, you wonder where the hay all comes from, until you learn that in the Southwest alfalfa is cut five, six or seven times a year, and then pastured. The region of Bakersfield, Cal., has become famous of late through the discovery of vast deposits of oil, and this is making the country rich; nevertheless, its agricultural resources are likely to be more enduring and certain. The whole of the Kern river is spread out on alfalfa fields and contributes to the making of great herds of beef and dairy cattle. This is one section of southern California where water is applied with a lavish hand. At the same time, the Kern river is one of the very few streams of the country whose entire flow, even during flood times, is utilized. No part of the Kern river, it is said, ever finds its way to the sea. When the flood runs so high as to fill all the innumerable canals and ditches which spread out from the Kern like a gigantic spiderweb, and so flood all the alfalfa meadows, then the water is poured into a large natural basin, whose one outlet has been dammed. In this way the flood waters of the river are impounded in a large storage reservoir, with the singular feature, however, that instead of being located in the mountains, at the headwaters of the river, it is at its extreme other end.

A strong effort is being made at this session of Congress to consolidate the various forestry branches, divisions and bureaus of the Government under one systematic bureau. This is a subject which deserves the earnest recognition of Congress. At present there are forestry operations in the land office, the Interior Department proper and the agricultural department. The President has recommended to Congress that these various branches should be consolidated under one bureau, inasmuch as there is now duplication of work and conflict of authority. This is certainly the common-sense view which should be taken of the question. The forestry problem, as it relates not only to our lumber but to our water supply, is one of great importance, and is coming to be generally so recognized. The proposed consolidation would not only result in increased efficiency, but also in more economical administration.

Mr. R. A. Pearson, who lately made a visit to Cuba for the Department of Agriculture, says that that island is an excellent stock country, and that many go so far as to predict that at some future time beef will be sent from the markets of Cuba to the United States. At present, however, owing to the great slaughter of stock during the war, not enough cattle are raised for home use, and it is necessary to import large numbers from Texas and elsewhere. Recently large numbers of Mexican cattle have been imported by the Cuban government and distributed at cost on easy terms to the farmers in certain districts where the cattle were practically destroyed during the war.

From a mere experiment of the Department of Agriculture, to show farmers and cattle raisers that the ravages of blackleg could be almost entirely overcome by the use of vaccine, the regular distribution made by the Bureau of Animal Industry amounts now each year to over one million and a half doses. "Last year," says Dr. Salmon, the chief of the bureau, "this vaccine gave most favorable results; the losses in the vaccinated herds were less than one per cent. of the total number. The discovery and use of blackleg vaccine has eliminated almost all risk among cattle growers due to this disease."

Fall pigs wintered on skim milk, oil meal and corn meal, should weigh 125 to 150 pounds very early in the spring, and should pay a fair profit.



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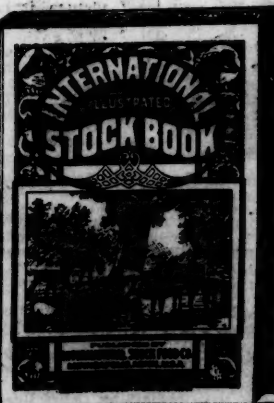
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